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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/782,953	02/23/2004	Erik J. Shahoian	IMMR060/04US	7553

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EXAMINER

WU, XIAO MIN

ART UNIT

PAPER NUMBER

2629

DATE MAILED: 05/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/782,953

Applicant(s)

SHAHOIAN, ERIK J.

Examiner

XIAO M. WU

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 67-109 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 67-109 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2/23/04, 10/5/04, 3/21/06
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION***Double Patenting***

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 67-109 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-69 of U.S. Patent No. 6,697,043. Although the conflicting claims are not identical, they are not patentably distinct from each other because they both are claiming the actuator being configured to output a rotary force in a haptic feedback interface device.

Two representative claims from the US Patent No. 6,697,043 and the instant application are compared in the following:

Claim 1 of the US Patent No. 6,697,043	Claim 67 of the instant application
1. A haptic feedback interface device in communication with a host	67. A device, comprising:

processor implementing a host program, said interface device manipulated by a user, the interface device comprising: a housing that is physically contacted by said user;	
a sensor device detecting said manipulation of said interface device by said user, said sensor device outputting sensor signals representative of said manipulation;	a sensor configured to output a sensor signal associated with one of a movement and a position of a housing to which the sensor is coupled;
an actuator coupled to said housing, said actuator operative to output a rotary force; and	an actuator coupled to the housing, the actuator being configured to output a rotary force based on a haptic feedback signal received from a processor, the haptic feedback signal being based on the sensor signal; and
a flexure coupling said actuator to said housing, said flexure being a unitary member and including a plurality of flex joints allowing a portion of said flexure to be approximately linearly moved, wherein said flexure converts said rotary force output by	a flexure having a plurality of flexible joints, the flexure being coupled to the actuator and the housing, the flexure being configured to translate the rotary force to a linear motion of the flexure, the flexure operative to output haptic feedback based on the rotary force.

said actuator to said linear motion, said linear motion causing a force that is transmitted to said user.	

Form the side-by-side comparison above. It is noted that claim 667 is broadening from claim 63 of the US Patent No. 6,697,043. For example, claim 67 of the instant application does not claim the flexure being a unitary member as claim 1 of the US Patent No. 6,697,043. However, It is obvious to one of ordinary skill in the art to realize that the flexure is a unitary member.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims are rejected under 35 U.S.C. 102(b) as being anticipated by Salcudean et al. (US Patent No. 5,790,108).

As to claim 89, Salcudean discloses a device (Fig. 6), comprising: a sensor (col. 7, lines 55-56) configured to output a sensor signal associated with one of a movement and a position of a housing to which the sensor is coupled; an actuator (124, Fig. 7) coupled to, and movable with respect to, the housing, the actuator being configured to output a force based on the sensor signal (see col. 7, lines 38-41); and a mechanism (Fig. 7) including a flexure (128, 130, Fig. 7) having

at least a first flex joint (e.g. top portion of the spring 128, 130) and a second flex joint (e.g. bottom portion of the spring 128, 130), the mechanism (122) configured to couple the actuator (124) to the housing, the actuator having a mass (124) and being configured to provide an inertial force as haptic feedback associated with the force (see col. Col. 7, lines 19-50).

As to claim 90, Salcudean discloses the actuator is configured to be moved in approximately a linear motion with respect to the housing (see Fig. 7).

As to claim 92, Salcudean discloses the actuator (124) is configured to be moved in approximately a substantially linear motion, the linear motion being along a z-axis substantially orthogonal to an x-y plane, the device being configured to move in the x-y plane (see Fig. 7).

As to claim 93, Salcudean discloses a contact member (122), the actuator (124) being coupled to the contact member, the contact member (122) being configured to move with respect to the housing in response to the force output by the actuator, the contact member (122) being further configured to receive an external input force (see col. 7, lines 30-41).

As to claim 97, Salcudean discloses the actuator is configured to move bi-directionally to output at least one of a vibration (see Fig. 7).

As to claim 98, Salcudean discloses the haptic feedback is associated with a graphical representation displayed by a processor, a position of the housing in a planar workspace being associated with a position of a cursor displayed in the graphical representation (Figs. 11 and 12).

As to claim 99, Salcudean discloses the haptic feedback is a pulse associated with the simulated interaction of a cursor with a graphical object displayed in a graphical user interface (see Fig. 12).

As to claim 100, Salcudean discloses a method, comprising: sending a sensor signal (col.

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7, lines 55-56) associated with one of a movement and a position of an interface device; and outputting via an actuator (124) haptic feedback based on the sensor signal, the actuator (124) being coupled to a housing of the interface device via a flexure (128, 130), the flexure having at least one flex joint, the flexure being configured to couple the actuator to the housing (see Fig. 7).

As to claim 101, Salcudean discloses the haptic feedback is associated with a haptic feedback signal received by the interface device from a processor (see col. 9, line 64 to col. 10, line 3).

As to claim 102, Salcudean discloses the actuator is moved in approximately a linear motion (see Fig. 7).

As claim 104, Salcudean discloses the actuator is moved in approximately a linear motion along a z-axis substantially orthogonal to a base of the housing (see Fig. 7).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 91, 94-96, 103, 105-109 are rejected under 35 U.S.C. 103(a) as being unpatentable over Salcudean et al. (US Patent No. 5,790,108).

As to claims 91, 94, 103, 105-107, it is noted that Salcudean discloses that the actuator is an electromagnetic type actuator. However, it would have been one of ordinary skill in the art to have use an rotary actuator instead of the electromagnetic because they both can provide bi-

directional linear movement and they are alternative for each other.

As to claim 108, Salcudean as modified would provide a rotating shaft of the actuator is coupled to a flexure arm including the at least one flex joint, the flexure arm being configured to be coupled to a portion of the interface device housing, the interface device housing being flexibly coupled to a carriage, the carriage being coupled to the actuator housing.

As to claims 96, 109, Salcudean discloses the flexure mechanism includes a travel limiter configured to limit the movement of the actuator within a desired range of motion (see Fig. 7).

As to claim 95, Salcudean as modified would provide the flexure includes: a rotating member coupled to the housing by at least the first flex joint (128, 130) , and a first arm member and a second arm member (122) each configured to couple the actuator to the housing by at least the first flex joint.

Information Disclosure Statement

7. The information disclosure statement filed 2/23/2004 and 10/5/2004 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to XIAO M. WU whose telephone number is 571-272-7761. The examiner can normally be reached on 6:30 am to 4:00 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, RICHARD HJERPE, can be reached on 571-272-7691. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

x.w.
May 14, 2006



XIAO M. WU
Primary Examiner
Art Unit 2629